

WHAT IS CLAIMED IS:

1. An emergency information notifying apparatus of a moving object, comprising:

at least one image pick-up device for picking up images where a part of said moving object comes in sight a range of a view field of said image pick-up device;

a first recording apparatus for recording video signals from said image pick-up device, said first recording apparatus having a function of iterative recording,

a first transmitter for transmitting said video signals recorded in said first recording apparatus to a predetermined base station;

a first control unit for controlling an operation of said first recording apparatus and said first transmitter; and

a signal generator for generating a command signal on the basis of a shock to said moving object,

wherein said first control unit stops the recording operation of said first recording apparatus after a lapse of a predetermined time from the timing when the shock is applied to said moving object on the basis of the signal from said signal generator.

2. The apparatus according to claim 1, further comprising a first receiver for receiving the command signal from said base station.

3. The apparatus according to claim 1, further

comprising a global positioning system, wherein said emergency information control unit superposes position information and time information from said global positioning system on the reproduced video signals from said first recording apparatus on the basis of said command signal and transmits them from said first transmitter to said base station.

4. The apparatus according to claim 1, wherein said signal generator includes at least one of an airbag, a shock sensor, a temperature detecting sensor, and a manual notification button.

5. The apparatus according to claim 2, further comprising a global positioning system, wherein said first receiver further has a function of receiving a first signal indicating a lighting state of a traffic signal arranged at a place where said moving object passes and said first control unit superposes said first signal indicating the lighting state of said traffic signal and a position signal from said global positioning system on said video signals from said first recording apparatus and transmits them to said base station via said first transmitter when a level of the signal from said signal generator exceeds a predetermined value.

6. The apparatus according to claim 5, wherein said moving object is an automobile and further includes a second recording apparatus and wherein said second recording apparatus records information relating

to at least one of a speed of said automobile, its steering angle, and an amount of its brake pedal operation, and the information recorded in said second recording apparatus is transmitted from said first transmitter to said base station on the basis of a command from said first control unit.

7. An emergency information notifying system between an emergency information notifying apparatus of a moving object and a base station installed at an emergency notification center, wherein

said emergency information notifying apparatus, comprising:

at least one image pick-up device for picking up images where a part of said moving object comes in sight a range of a view field of said image pick-up device;

a first recording apparatus for recording video signals from said image pick-up device, said first recording apparatus having a function of iterative recording,

a first transmitter for transmitting said video signals recorded in said first recording apparatus to a predetermined base station;

a first control unit for controlling an operation of said first recording apparatus and said first transmitter; and

a signal generator for generating a command signal on the basis of a shock to said moving object;

wherein said first control unit stops the recording operation of said first recording apparatus after a lapse of a predetermined time from the timing when the shock is applied to said moving object on the basis of the signal from said signal generator; and

said base station, comprising:

a second receiver for receiving said video signal from said first transmitter;

a second transmitter for transmitting a command signal from said base station;

a third storage device for recording at least said video signal among signals transmitted from said first transmitter;

a display unit for monitoring said video signals; and

a second control unit for controlling said second receiver, said second transmitter, and said display unit; and

wherein, said second control unit notifies information relating to an accident which has occurred at moving object to at least one of a police station, a fire station, a security company, a mobile phone company, a casualty insurance company, and a road service company, when said second receiver receives a command signal generated based on the shock to said moving object.

8. The system according to claim 7, wherein said emergency information notifying apparatus further

comprises a first receiver for receiving said command signal from said base station and a GPS positioning system, wherein said first control unit superposes a position signal from said GPS positioning system on said video signals from said first recording apparatus and transmits them to said base station via said first transmitter, when a level of the signal from said signal generator exceeds a predetermined value; and

wherein said base station displays said video signals and said position signal transmitted from said emergency information notifying apparatus on said display unit.

9. The system according to claim 8, wherein said first receiver further has a function of receiving a first signal indicating a lighting state of a traffic signal arranged at a place where said moving object passes, and said first transmitter superposes said first signal indicating the lighting state of said traffic signal and the position signal from said global positioning system on said video signals from said first recording apparatus and transmits them to said base station, and

wherein said base station further comprises a lighting pattern signal generator for generating a lighting pattern signal based on said first signal indicating the lighting state of said traffic signal, and said display unit superposes and displays the lighting pattern of said traffic signal output from

said lighting pattern signal generator on said video signals transmitted from said emergency information notifying apparatus.

10. The system according to claim 8, wherein said moving object is an automobile;

wherein said emergency information notifying apparatus further comprises a second recording apparatus and said second recording apparatus records information relating to at least one of a speed of said automobile, its steering angle, and an amount of its brake pedal operation, and said first transmitter transmits said information recorded in said second recording apparatus to said base station; and

wherein said display unit said base station displays said information from said second recording apparatus.

11. The system according to claim 9, wherein said second transmitter of said base station transmits said video information to at least one of said police station, said fire station and said casualty insurance company.

12. The system according to claim 7, wherein said emergency information notifying apparatus further comprises a global positioning system and said first control unit superposes said position signal from said GPS positioning system on said video signals from said first recording apparatus and transmits them to said base station via said first transmitter; and

wherein said base station transmits said position information of said moving object to a map company, receives map information containing a position of said moving object from said map company and displays it on said display unit.

13. The system according to claim 7, wherein at least one of said base station, said police station, said fire station and said casualty insurance company has an image analysis device;

wherein said image analysis device comprising:

a third recording apparatus for recording information from said base station;

means for reading out video information for each frame in said video information from said third recording apparatus; and

means for comparing said video information for said each frame; and

wherein an accident is analyzed on the basis of a result of the comparison of said video information.

14. The system according to claim 7, wherein said second receiver and said second transmitter of said base station are connected to at least one of the police station, the fire station, the security company the mobile phone company, the casualty insurance company, and the road service company via a communication network.

15. The system according to claim 8, wherein each of said first transmitter and said first receiver comprises a mobile device, said mobile device comprising a fourth storage device for recording private information of a passenger of said moving object and a control unit for controlling an input and an output of said fourth storage device, and said mobile phone company transmits a signal for limiting a readout of said fourth storage device to said mobile device in response to an accident occurrence notification from said moving object.

16. The system according to claim 8, wherein each of said first transmitter and said first receiver comprises a mobile device, said mobile device comprising a fourth storage device for recording private information of a passenger of said moving object and a control unit for controlling an input and an output of said fourth storage device, and said casualty insurance company transmits a control signal for controlling said fourth storage device to said mobile device in response to an accident occurrence notification from said moving object to acquire predetermined private information.

17. A method of notifying emergency information between a moving object and a base station, comprising the steps of:

picking-up images where a part of said moving object comes in a range of a view field of an image



pick-up device;

iteratively recording video signals of said taken images to a recording apparatus for a predetermined period of time;

generating a command signal on the basis of a shock to said moving object;

stopping the iterative recording of said video signals after a lapse of a predetermined time from the timing when the shock is applied to said moving object on the basis of said command signal; and

transmitting said video signals recorded for said predetermined period of time before and after the timing when the shock is applied to said moving object to said base station.

18. The method according to claim 17, further comprising the steps of:

generating position information and time information of said moving object from a global positioning system;

superposing the position information and the time information from said global positioning system on said video signals reproduced from said recording apparatus on the basis of said command signal and transmitting them to said base station.

19. The method according to claim 18, wherein said command signal is sent from one of an airbag, a shock sensor, a temperature detecting sensor, and a manual notification button.

20. The method according to claim 17, further comprising the steps of:

generating position information of said moving object from said global positioning system;  
receiving a signal indicating a lighting state of a traffic signal arranged at a place where said moving object passes; and

reading out said video signals from said recording apparatus on the basis of said command signal and superposing said first signal indicating the lighting state of the traffic signal and said position signal on said video signals and transmits them to said base station.

21. The method according to claim 20, wherein said moving object is an automobile, and further comprising the steps of:

recording information relating to at least one of a speed of the automobile, its steering angle, and an amount of its brake pedal operation; and

transmitting said information relating to at least one of said speed of the automobile, said steering angle, and said amount of the brake pedal operation on the basis of said command signal.

22. A method of notifying emergency information between an emergency information notifying apparatus of a moving object and a base station installed at an emergency notification center, comprising the steps of:

in said emergency information notifying

apparatus,

picking-up images where a part of said moving object comes in a range of a view field of an image pick-up device;

iteratively recording video signals of said taken images to a recording apparatus for a predetermined period of time;

generating a first command signal on the basis of a shock to said moving object;

stopping the iterative recording of said video signals after a lapse of a predetermined time from the timing when the shock is applied to said moving object on the basis of said first command signal; and

transmitting said video signals recorded in said recording apparatus to said base station;

in said base station,

receiving said video signals from said emergency information notifying apparatus;

recording said received video signals and displaying them on a display unit; and

notifying at least one of a police station, a fire station, a security company, a mobile phone company, a casualty insurance company, and a road service company information relating to an accident occurrence at said moving object.

23. The method according to claim 22, wherein said emergency information notifying apparatus

comprises a receiver for receiving a second command signal from said base station and a global positioning apparatus and when a level of said first command signal exceeds a predetermined value, said emergency information notifying apparatus superposes a position signal from said global positioning apparatus on said video signals and transmits them to said base station; and

wherein said base station records said video signals transmitted from said emergency information notifying apparatus and said position signal and displays them on said display unit.

24. The method according to claim 23, wherein said moving object is an automobile;

wherein said emergency information notifying apparatus further records information relating to at least one of a speed of said automobile, its steering angle, an amount of its brake pedal operation and transmits said information relating to at least one of the speed of the automobile, the steering angle, the amount of the brake pedal operation to said base station; and

wherein said base station displays said information relating to at least one of the speed of the automobile, the steering angle, the amount of the brake pedal operation together with said video signals.

25. The method according to claim 23, wherein said emergency information notifying apparatus includes

a mobile device, said mobile device comprising a storage device for recording private information of a passenger of said moving object and a control unit for controlling an input and an output of said storage device, and said mobile phone company transmits a signal for limiting a readout of said storage device to said mobile device in response to an accident occurrence notification from said moving object.

26. The method according to claim 23, wherein said emergency information notifying apparatus includes a mobile device, said mobile device comprising a storage device for recording private information of a passenger of said moving object and a control unit for controlling an input and an output of said storage device, and said casualty insurance company transmits a signal for limiting the readout of said storage device to said mobile device in response to the accident occurrence notification from said moving object to acquire predetermined private information, in addition to said video signals information and the position information from said emergency information notifying apparatus.